

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R-037XA030NM

Site Name: Sandy Loam Upland

Precipitation or Climate Zone: 7-10"pz

Phase: _____

Original Site Description Approval:

Site Date: _____

Site Author: _____

Site Approval: George Chavez

Approval Date: 2/29/2000

Revisions:

Revision Date: 2/25/2002

Revisor: David Trujillo

Revision Approval: _____

Approval Date: _____

Revision Notes: Convert to new Ecological Site format

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on treads of high stream terraces, fan remnants of undulating plateaus and cuestas. It does not benefit from run-in moisture from adjacent areas nor does it suffer from excessive loss from runoff. It occurs on all exposures. Slopes range from 1 to 8 percent. Elevations range from 4,700 to 6,100 feet.

Land Form:

1. Fan remnant

2. Cuesta dipslope

3. Valley side

4. Hill

5. Mesa

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	4,700	6,100
Slope (percent)	1	8
Water Table Depth (inches)	>60	>60
Flooding:	Minimum	Maximum
Frequency	None	None
Duration	None	None
Ponding:	Minimum	Maximum
Depth (inches)		
Frequency	None	None
Duration	None	None

Runoff Class:

Very Low to Low

CLIMATIC FEATURES

Narrative:

Mean annual precipitation varies from 7 to 10 inches. About 60 percent of this moisture come as rain during the months of April through October. May and June are the driest months. Most of the moisture from November through March comes as snow. Winds of high velocity during late winter and early spring are common.

Mean temperatures for the hottest month, July, are about 83⁰ F. The coldest month is January, when the mean temperature is about 27⁰ F. Extreme temperatures of 104⁰ F. for a high and -17⁰ F. for a low have been recorded. Frost-free period ranges from 140 to 160 days.

The cool-season plants start growth in March and end with plant maturity and seed dissemination about mid-June. During June, July, August and September, the warm-season plants make optimum growth taking advantage of the warm temperature and moisture from tropical air out of the Gulf of Mexico. About 40 percent of the total precipitation is received during these summer months. The other 60 percent received during the fall-winter-spring months influence cool-season plants.

	Minimum	Maximum
Frost-free period (days):	140	160
Freeze-free period (days):	145	165
Mean annual precipitation (inches):	7	10

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.52	.62	11	42.6
February	.43	.63	17.3	50.9
March	.45	.72	22.2	60.1
April	.46	.55	28.1	69.8
May	.38	.56	36.6	79.2
June	.27	.66	45.8	89.2
July	.58	1.43	53.9	94
August	.95	1.62	52	91.1
September	.83	1.28	43.5	83.7
October	.84	1.15	31.2	71.8
November	.66	.76	20.6	54.9
December	.59	.71	12.4	43.8

Climate Stations:						
Station ID		Location		Period		
				From:	To	
298284		Shiprock NM		1961	1990	
					:	
293340		Fruitland 2 E, NM		1961	1990	
					:	
293134		Farmington 3 NE, NM		1961	1990	
					:	
291647		Chaco Canyon Natl. Mon, NM		1961	1990	
					:	
296465		Otis, NM		1961	1990	
					:	
					To	
					:	

INFLUENCING WATER FEATURES

Narrative:	
This site is not influenced by water from wetland or stream.	

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils are very deep and well drained. They are formed in alluvium and eolian derived from sandstone. Surface textures include loamy fine sand and fine sandy loam. The subsoil has textures of very fine sandy loam, fine sandy loam, loamy coarse sand and loamy sand. Permeability is moderately rapid. Available water capacity is low to moderate. Runoff is very low to low and the hazard of water erosion is very slight to slight. The hazard of soil blowing is severe. The soils are slightly to strongly alkaline (pH 7.4-9.0), non-saline to slightly saline below 24 inches (EC 0-8) and non-to slightly sodic (SAR 0-13).

Characteristic taxonomic units are:

Shiprock SSA:

120-Nageezi-Denazar (Nageezi part)

173-Shiprock fine sandy loam

205-Shiprock-Farb Complex (Shiprock part)

240-Nageezi loamy fine sand

Other soils included are:

Parent Material Kind: Alluvium and eolian

Parent Material Origin: Sandstone

Surface Texture:

1. Loamy fine sand
2. Fine sandy loam
3.

Surface Texture Modifier:

1. None
2.
3.

Subsurface Texture Group: Loamy

Surface Fragments $\leq 3''$ (% Cover): 0-8

Surface Fragments $> 3''$ (% Cover): 0

Subsurface Fragments $\leq 3''$ (% Volume): 0-5

Subsurface Fragments $> 3''$ (% Volume): 0

	<u>Minimum</u>	<u>Maximum</u>
Drainage Class:	<u>Well drained</u>	<u>Well drained</u>

Permeability Class:	Moderately rapid	Moderately rapid
Depth (inches):	>60	>60
Electrical Conductivity (mmhos/cm):	0	8
Sodium Absorption Ratio:	0	13
Soil Reaction (1:1 Water):	7.4	9.0
Soil Reaction (0.1M CaCl ₂):	N/A	N/A
Available Water Capacity (inches):	4	6
Calcium Carbonate Equivalent (percent):	1	30

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 Narrative Label: HCPC

Plant Community Narrative:

This site has a plant community make up primarily of short and mid grasses, some shrubs and a small percentage of forbs. In the original plant community there is a mixture of both cool and warm season grasses. Plant species most likely to invade or increase on this site when it deteriorates are cheatgrass, sixweeks fescue, annual weeds, galleta and broom snakeweed.

Continuous livestock grazing during the winter and spring periods will decrease the cool season grasses, which are replaced by lower forage value grasses and shrubs.

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs	_____
Bare ground	_____
Surface cobble and stone	_____
Litter (percent)	_____
Litter (average depth in cm.)	_____

Plant Community Annual Production (by plant type):

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	240	320	440
Forb	15	20	28
Tree/Shrub/Vine	45	60	82
Lichen			
Moss			
Microbiotic Crusts			
Totals	300	400	550

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	ACHY	Indian ricegrass	100-140	100-140
2	PLJA	Galleta	40-60	40-60
3	BOGR2	Blue grama	20-40	20-40
4	SPCR	Sand dropseed	0-8	0-8
5	ARPUF	Fendler threeawn	0-8	0-8
6	ARPUL	Red threeawn	0-4	0-4
7	ELEL5	Bottlebrush squirreltail	8-20	8-20
8	SPFL2	Mesa dropseed	0-12	0-12
9	MUPU2	Sandhill muhly	0-4	0-4
10	2GP	Other perennial grasses	0-12	0-12

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	CHER2	Smallflower aster	0-8	0-8
12	SPHAE	Globemallow	0-4	0-4
13	2FP	Perennial forbs	0-12	0-12
14	2FA	Annual forbs	0-8	0-8

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
15	ATCA2	Fourwing saltbush	4-20	4-20
16	KRLA2	Winterfat	0-20	0-20
17	OPPO	Plains pricklypear	0-4	0-4
18	CHGR6	Greene rabbitbrush	0-4	0-4
19	GUSA2	Broom snakeweed	4-20	4-20
20	2SHRUB	Other shrubs	0-8	0-8

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID _____

Growth Curve Name: 037XA-1

Growth Curve Description: Average Precipitation Year

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	6	7	6	6	5	11	14	12	12	8	7

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

This site is well used by wildlife that require digging and those which require open grassland.

Hydrology Functions:

This site normally receives approximately 7-10 inches annual precipitation. Most summer rainfall occurs as brief sometimes-heavy thunderstorms. Slopes range from 1-8 percent. . Permeability is moderately rapid. Runoff is very low to low and the hazard of water erosion is very slight to slight.

Recreational Uses:

Open grasslands of the undulating plateaus and cuevas of this site are aesthetically appealing and provide recreational activities such as hunting, horseback riding, and wildlife observation.

Wood Products:

This site has no significant value for wood products.

Other Products:

Grazing: This site is suitable for yearlong grazing by all classes of livestock. Grazing systems adapt well to this site and should be used. This site is susceptible to erosion, particularly overgrazed areas, old roads, cattle trails and concentration areas.

Other Information:

Plant Preference by Animal Kind:

	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Indian ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	D	D	D	P	P	P	P
Galleta	<i>Pleuraphis jamesii</i>	EP	D	D	D	D	D	D	P	P	P	D	D	D
Blue grama	<i>Bouteloua gracilis</i>	EP	D	D	D	D	D	D	P	P	P	D	D	D
Sand dropseed	<i>Sporobolus cryptandrus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fendler threeawn	<i>Aristida purpurea</i> var. <i>fendleriana</i>	EP	U	U	D	D	D	U	U	U	U	U	U	U
Red threeawn	<i>Aristida purpurea</i> var. <i>longiseta</i>	EP	U	U	D	D	D	U	U	U	U	U	U	U
Bottlebrush squirreltail	<i>Elymus elymoides</i>	EP	P	P	P	D	D	D	D	D	D	D	D	D
Mesa dropseed	<i>Sporobolus flexuosus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Sandhill muhly	<i>Muhlenbergia pungens</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Smallflower aster	<i>Chaetopappa ericoides</i>	EP	U	U	D	D	D	U	U	U	U	U	U	U
Globemallow	<i>Sphaeralcea</i>	EP	U	U	D	D	D	U	U	U	U	U	U	U
Perennial forbs		EP	P	P	P	P	P	P	P	P	P	P	P	P
Annual forbs		EP	P	P	P	P	P	P	P	P	P	P	P	P
Fourwing saltbush	<i>Atriplex canescens</i>	S, L	P	P	D	D	D	D	D	D	D	D	D	P
Winterfat	<i>Krascheninnikovia lanata</i>	S/L	P	P	D	D	D	D	D	D	P	P	P	P
Plains pricklypear	<i>Opuntia polyacantha</i>	L	U	U	U	U	U	U	U	U	U	U	U	U
Greene rabbitbrush	<i>Chrysothamnus Greenei</i>	S, L	U	U	U	U	U	U	U	U	U	U	U	U
Broom snakeweed	<i>Gutierrezia sarothrae</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

Inventory Data References (narrative):

The potential historic climax plant community has been determined by study of range relict areas, or areas protected from excessive grazing. Trends in plant communities going from heavily grazed areas to lightly grazed areas, seasonal use pastures and historical accounts have also been used

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

State Correlation:

This site has been correlated with the following sites: _____

Type Locality:

State: NM

County: San Juan

Latitude: _____

Longitude: _____

Township: 25N

Range: 17W

Section: 15

Is the type locality sensitive? Yes ☐ No ☒

General Legal Description: Little Water Topographic Quadrangle – 5 miles ESE of Little Water, NM Section 15, Township 25N, Range 17W – Navajo Reservation, NM.

Relationship to Other Established Classifications:

Other References:

